

CLAIMS

The invention claimed is:

1. A method for producing methane gas which comprises:

5 providing a biomass material that will yield methane gas;

adding or not adding inoculants as desired and inserting the biomass material into a large flexible plastic bag to provide a first portion of the bag filled with the biomass material and sealing off both ends of the bag to provide a second bag portion at one end that is unfilled with the material;

10 said material emitting methane gas that is directed to the second bag portion;

connecting a tube into the bag at the unfilled bag portion with an end of the tube protruded from the bag; and

15 directing methane gas from the bag and through the tube to a point of collection or use.

2. A method as defined in Claim 1 including placing a perforated conduit inside the bag along the top of the filled portion of the bag and extended to the unfilled portion of the bag and thereby facilitating flow of the gas to the unfilled portion.

20 3. A method as defined in Claim 1 including placing aeration tubes in the biomass material in the filled portion of the bag and

extending an end thereof to the bag exterior and compost treating the material following substantial extraction of the methane gas from the material.

5 4. A method as defined in Claim 1 including filling multiple bags with the biomass material in accordance with Claim 1 and further including a gas line interconnected with the multiple tubes of said multiple bags and conveying methane gas through the gas line to a collection site.

10 5. A method as defined in Claim 1 including placing the bag on a heating pad while being filled and upon being filled, directing hot water to the heating pad to heat the filled bag as desired and to enhance the reaction of the methane gas production.

15 6. A method as defined in Claim 1 which includes placing an insulating robe over the bag, inserting water lines between the robe and bag and flowing hot water through the lines to achieve a desired temperature of the material in the bag.

20 7. A system for generating methane gas which comprises:
a flexible bag having a horizontally extended tubular length, a majority of said length filled with biomass material in a composition known to produce methane gas and as desired adding an

inoculant to the material that induces a reaction with the biomass material to induce methane gas emission from the biomass material;

5 a remaining tubular length of the bag unfilled with the material and to be filled with said gas emitted by the biomass material, a pipe inserted through the bag wall for releasing methane gas from the remaining tubular length and a continuation of said pipe directing said gas to a gas collection site.

10 8. A system as defined in Claim 7 wherein a conduit is positioned inside the bag at the top of the material in the filled tubular length and extended to the unfilled tubular length for transmitting gas to the unfilled tubular length.

15 9. A system as defined in Claim 8 wherein a heating pad underlies the bag, water passages are provided in the pad and connected to a hot water source for flowing hot water through the pad and heating thereby the material in the bag.

20 10. A system as defined in Claim 9 wherein a robe is placed over the bag, water lines are positioned between the bag and robe and hot water is circulated through the lines for heating the material in the bag.

11. A system as defined in Claim 7 wherein multiple of the

defined bags are placed in adjacent relationship and a gas line is connected to the pipes and extended to a collection site for transmitting gas from the bag to the collection site.

5 12. A system as defined in Claim 7 wherein the dominant portion of the biomass material is animal waste.